

CLEOPATRA'S ASP

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Although most people know that Cleopatra died from the bite of an 'asp', there has not been agreement as to which species of snake that was. The name asp is today applied both to the Egyptian Cobra (*Naja haje*) and to the Saharan Horned Viper (*Cerastes cerastes*). The snake which Cleopatra applied to her bosom after having 'pursued conclusions infinite of easy ways to die' could, therefore, have been either of these species, or perhaps the Common Sand Viper *C. vipera* of North Africa.

Cleopatra VII was co-ruler of Egypt with her brother Ptolemy XIII from 51 B.C. until he ousted her in 48 B.C. Restored the following year by Julius Caesar, she accompanied him to Rome, returning to Egypt after his assassination in 44 B.C. Here she met Mark Antony, who abandoned his wife Octavia in order to live with her. The two were defeated by Octavian, who later became the Emperor Augustus, at the battle of Actium in 31 B.C. and both committed suicide in 30 B.C. Shakespeare's reconstruction of their story follows the romantic account in Plutarch's *Parallel Lives*.

During the late 17th Century a lively controversy revolved around the nature of the viper's bite. According to the famous Italian biologist Francisco Redi, its dangerous effects were caused by the yellowish fluid that flowed from the fangs. On the other hand, M. Charas, a French chemist, ascribed it to the snake's 'enraged spirits'. The latter view was the more popular and, in the final scene of *Antony and Cleopatra*, Cleopatra says to the asp:-

'With thy sharp teeth this knot intricate of life at once untie.
Poor venomous fool, Be angry, and dispatch'

Redi's opinion was based on scientific experiment and eventually prevailed. Charas was not completely wrong, however, for an irate snake usually injects more venom than does one whose anger has not been aroused. About the same time Edmund Spenser, the English poet, wrote of ' . . the stings of aspes that kill with smart'.

After the death of the Queen, one of Caesar's guards in *Antony and Cleopatra*, who made an examination of her apartments, exclaimed:-

'This is an asp's trail, and these fig leaves
Have slime upon them such as the asp leaves
Upon the caves of Nile.'

In this, Shakespeare introduced a common error of his day - that snakes were slimy: but a cave seems to be a more likely habitat for a cobra than for a desert viper. Moreover, the cobra was a symbol of royalty in ancient times and, during the Greco-Roman period, was used for the execution of favoured criminals. This is further evidence in support of the hypothesis that Cleopatra's asp was a cobra.

Bites by vipers are followed by severe pain and swelling in the region of the injury. Blood-stained serum may ooze from the fang marks and enter the subcutaneous tissues causing discolouration of the skin. Clotting of the blood is inhibited so that there may be haemorrhage of the lungs or intestine, and the patient coughs up blood or passes it through the rectum. Small purple spots often appear beneath the skin

where the blood has leaked from damaged vessels. Later, areas of tissue become gangrenous and are sloughed away. When death occurs, it is usually due to failure of the heart or respiration. Although cobra venom not infrequently also causes severe local damage, there is little pain at the site of the injury. That is why criminals who were executed by the bite of a cobra were regarded as receiving a 'favour', and Cleopatra is more likely to have chosen a cobra than a viper as the instrument of her death.

The venoms of most snakes contain a variety of both neurotoxins and blood poisons, but the former tend to predominate in Elapidae, the latter in Viperidae. Moreover, neurotoxins may also act on the blood system, while blood poisons can have side effects on the nervous system, so that the effects of both are complicated. Nevertheless, muscular weakness, as well as depression of the breathing and of the heart, are more characteristic of the effects of elapid venom, and death usually follows much sooner than in the case of viperid poisoning. Finally, the Egyptian Cobra is much larger and produces more venom than does the Horned Viper. Consequently, its bite is the more likely to be fatal – an important consideration to anyone determined to die.